

Title (en)

Device and method for determining a state of an electromechanical relay contact, and a system including such a device

Title (de)

Vorrichtung und Verfahren zur Bestimmung des Betriebszustandes eines elektromechanischen Relaiskontakts und System mit solch einer Vorrichtung

Title (fr)

Dispositif et procédé pour déterminer un état d'un contact de relais électromécanique et système comprenant un tel dispositif

Publication

EP 2960922 A1 20151230 (EN)

Application

EP 14305992 A 20140624

Priority

EP 14305992 A 20140624

Abstract (en)

This state determination device (20) is adapted for determining a state of a relay contact (14) among closed and open states, the relay contact being movable between the closed and open states and connected to a resonant circuit (12), the resonant circuit having a resonance frequency and including a capacitor (24) or a coil (26). The device (20) comprises a generation unit (30) for generating an alternative voltage signal and for injecting the generated voltage signal into the resonant circuit, the generated voltage signal having a generated frequency comprised between 0.9 times and 1.1 times the resonance frequency, a measuring unit (32) for measuring an electric magnitude relative to the resonant circuit impedance after injection of the generated voltage signal, and a determination unit (34) for determining, according to the measured electric magnitude, the state of the relay contact among the closed and open states.

IPC 8 full level

H01H 47/00 (2006.01); **B61L 3/12** (2006.01); **H01H 9/16** (2006.01)

CPC (source: EP)

B61L 3/121 (2013.01); **B61L 3/126** (2013.01); **G01R 31/3278** (2013.01); **H01H 47/002** (2013.01); **H01H 1/0015** (2013.01); **H01H 9/167** (2013.01)

Citation (applicant)

EP 2104010 B1 20110119 - ALSTOM TRANSPORT SA [FR]

Citation (search report)

- [X] DE 4221916 A1 19940105 - SEL ALCATEL AG [DE]
- [X] US 2004174074 A1 20040909 - EHRLICH GERHARD [DE], et al
- [X] US 2004189319 A1 20040930 - STANISIC ZORAN [SE], et al
- [A] JP 2002037071 A 20020206 - TOTAL ELECTRIC MAN SERVICE, et al

Cited by

CN114144737A; US11448699B2; EP3424796A1; DE102020116684B4; WO2021260117A1

Designated contracting state (EPC)

AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

Designated extension state (EPC)

BA ME

DOCDB simple family (publication)

EP 2960922 A1 20151230; **EP 2960922 B1 20170614**; PL 2960922 T3 20171130; ZA 201504096 B 20160330

DOCDB simple family (application)

EP 14305992 A 20140624; PL 14305992 T 20140624; ZA 201504096 A 20150608